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**(54) HEAT TREATMENT FOR EXTRUDED BILLET OF
AL-MG-SI BASED ALUMINUM ALLOY**

(57) Abstract:

PURPOSE: To produce an extruded billet of Al-Mg-Si alloy excellent in strength and formability by subjecting an extruded billet material of Al-Mg-Si alloy with specific composition to heat treatment under specific conditions.

CONSTITUTION: A molten Al-Mg-Si based alloy, which has a composition consisting of, by weight, 0.3-1.7% Si, 0.01-1.2% Cu, 0.01-1.1% Mn, 0.1-1.4% Mg, and the balance Al or further containing one or ≈ 2 kinds among 0.04-0.4% Cr, $<0.4\%$ Zr,

and $<2.0\%$ Ti, is cast and formed into an extruded billet. This billet is heated up to 150-300°C at $\leq 300^\circ\text{C/hr}$ temp. rise rate, held at the temp. for 1-30hr, heated up to a soaking temp. at $\approx 300^\circ\text{C/hr}$ temp. raising rate, and subjected to soaking treatment at 560°C for 5hr, and then cooled down to room temp. at $\approx 150^\circ\text{C/hr}$ cooling rate. Subsequently, the billet is subjected to hot extrusion at 520°C and then to heat treatment, such as solution heat treatment, hardening, and aging treatment, by which the extruded Al alloy billet excellent in strength and formability, such as bendability, can be produced.

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